Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Norco Refinery
Motiva Enterprises LLC
Hydrocracking Unit
Norco, St. Charles Parish, Louisiana
Agency Interest Number: 1406
Activity Number: PER20070018
Proposed Permits 2629-V2

I. *APPLICANT:*

Company:
Motiva Enterprises LLC
Post Office Box 10
Norco, Louisiana 70079

Facility:
Norco Refinery
Hydrocracking Unit
15536 River Road, Norco, St. Charles Parish, Louisiana
Approximate Coordinates: Latitude 29 deg., 59 min., 58 sec. and Longitude 90 deg., 24 min., 13 sec.

Responsible Official:
Ms. Anne-Marie Ainsworth, General Manager

II. *FACILITY AND CURRENT PERMIT STATUS*

Motiva Enterprises (Motiva), LLC owns and operates a petroleum refinery, Norco Refinery, in Norco, St. Charles Parish, Louisiana. The Norco Refinery process crude oil, natural gas condensate, and partially refined products such as gas oil, to produce liquefied petroleum gas, ethylene, propylene, chemical products, finished gasoline, diesel, aviation fuel, heating oils, residuals, petroleum coke, and sulfur.

Historically, this site consisted of the Shell Norco Refining Company and Shell Chemical Company (Shell). In 1998; Shell Oil Company, Texaco Inc. and Saudi Aramco formed Motiva Enterprises (Motiva), LLC, a joint venture combining major elements of the three companies' eastern and Gulf Coast refining and marketing businesses. Based on new business ventures Shell Chemical Company and Motiva are viewed as separate sites. Motiva is splitting the old permits and is now permitting all the units and equipment now being operated under the Norco Refinery. This statement of basis is for the Hydrocracking Unit (HCU) Turnaround Project.

Motiva proposes to modify the HCU and the Hydrogen Plants during the 2008 Turnaround. The modifications will result in minor changes inside the battery limits of the Distillation Unit (DU-5), Diesel Hydrotreater (DHT) Unit, and the Catalytic Reformer No. 2 (CR-2) Unit. The turnaround has a potential to result in an increased utilization (operating rate and/or hours of operation) of equipment downstream of the HCU and Hydrogen Plants; i.e., Catalytic Reformer No. 1 (CR-1) Unit, Saturates Gas Plant, Residue Catalytic Cracking Unit (RCCU), Sulfur Plant No. 2 (S-2), Sulfur Plant No. 3 (S-3), Logistics I area, and Logistics II area. The proposed modifications are as follows:

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1. HCU 2nd Stage High Pressure Separator (PV-816): The changes will be made to the separator to improve its oil and water separation efficiency by increasing the amount of recycle water available for washing the exchangers upstream of the separator. This will not increase the utilization of the unit;
2. Replacement of Heat Exchanger (E-1057): The HCU heat exchanger will be replaced in part (channel and associated tubes) and in kind as it is eroded/corroded and currently does not provide adequate heat transfer efficiency. There will not be any increase in the utilization of the heat exchanger;
3. Hydrogen Plant Upgrade: Several control valves will be upgraded (increase flow) to minimize safety concerns for maintenance of equipment without a shutdown. Several heat exchangers will be upgraded to avoid over pressure for safety reasons. Other heat exchangers will be provided adequate flow without bypass to avoid overpressure build up. This will contribute to safety of the equipment;
4. Install a new Naphtha Control Valve: The naphtha control valve, HV-0654, controls the quality and temperature of the product routed to the catalytic reformers. The current valve does not allow effective control and generates large temperature fluctuations. This change will increase the naphtha product feed to the catalytic reformers and potentially decrease naphtha product routed to the DHT. There will be an increase in product yield and a reduction in coke formation;
5. Install Positive Isolation Valve for 310# Steam to Methane Reformer Furnace (F-45): During turnarounds and emergency shutdowns, 310 pound steam line condensate leaks into the Methane Reformer Furnace which results in delayed startups. This will improve the drainage time and operation of the unit when brought on line, thus reducing startup emissions;
6. Install Ultra–Flat Quench (UFQ) Trays for 1st Stage HCU Reactor: The existing internals in the HCU 1st Stage Reactor take up unnecessary internal space. The trays will be upgraded to allow for more catalyst (volume) which will result in increased efficiency of the reactor. This will increase the utilization of the unit;
7. Install New Diethanolamine (DEA) Pump: A new pump will be installed, existing pumps and associated piping will be upgraded to increase flow rate of the lean DEA to the 1st Stage DEA Treater and the fat DEA in the HCU. This will increase the utilization of the Sulfur Plants;
8. Increase the Turnaround Interval for the HCU: Existing piping configuration will be upgraded to allow for the bypass of heat exchangers so that the cleaning operations can be performed without a shutdown (on the run). This includes and not limited to metallurgy upgrades for specific heat exchangers and installation of equipment to allow for the injection of a solvent material to clean compressors on

the run. This will increase the operating time, utilization of the unit and extend turnaround intervals;

9. Replace Pumps P-1171 and P-2320: The existing pumps operate in light hydrocarbon service and are having seal leak problems. The pumps are old and the existing seals cannot be upgraded to mechanical seals; therefore, two new identical pumps with tandem seals and seal pots will be installed. This will improve the operational reliability of the equipment;
10. Upgrade HCU Instrumentation: The upgrade of equipment control functions (Triconex or Delta V Logic) will improve operability and reduce unnecessary trips. This will improve the operational reliability and reduce downtime;
11. DU-5 Vacuum Flasher Tray 3 Routed to HCU 1st Stage: New piping will be installed from the DU-5 to route Vacuum Flasher Tray 3 Light Vacuum Gas Oil (LVGO) directly to the HCU 1st Stage feed drum (10,000 barrels per day). This will allow the refinery to market Tray 29/30 liquids as straight run diesel. This will not increase the utilization of the unit;
12. Replacement of the HCU Substation: The existing substation was installed in 1960's and is at the end of its useful life and no longer supported by the manufacturer for spare parts. The new substation will provide reliable electrical service to the HCU;
13. Reroute the DHT Naphtha to the HCU 2nd Stage Main Fractionator: Currently the DHT naphtha stream is being routed to the waste oil/water system which potentially has safety concerns. Rerouting DHT naphtha stream will reduce the load on the waste oil/water system and alleviate safety concerns;
14. Replace Johnson Screens for High/Low Temperature Shift Reactor: The replacement will correct flow maldistribution and increase catalyst life;
15. Retray Sulfinol Regenerator: Currently the sulfinol system has excess CO2 concentrations and high velocities which contribute to corrosion and erosion of the system. This will improve the CO2 stripping efficiency, reduce velocities and improve distribution of the regenerator; and
16. Replace HCU 2nd Stage Reactor Exchanger Tube Bundle: Replacement of the HCU 2nd Stage Reactor effluent cooling water exchanger tube bundle will provide additional cooling capacity during summer months.

Note that the above listed changes and modifications are not considered a modification or reconstruction under the provisions of 40 CFR 60.14(c), 60.14(e) and 60.15 as the total investment is expected to be around $35 million, which is less than 50% of the capital cost. There will not be any change in the permitted criteria pollutants emissions at the facility except for VOC emissions due to new piping and fugitive component being added and due to the increase in tankage capacity (yield and utilization). The affected units for

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increase in VOC emissions due to piping, fugitive components, and tankage are Hydrogen Plant Fugitives (Emission Point 5011-99), Diesel Hydrotreater Unit Fugitives (Emission Point 3013-95), Distilling Unit Fugitives (Emission Point 3004-95), Catalytic Reformer No. 2 Unit Fugitives (Emission Point 3010-95), Logistics I (Emission Points 1230-95, 1238-95, 1247-95, and 1254-95), and Residue Catalytic Cracking Unit (Emission Points 1035-95 and 1068-95).

The CO emissions from the existing HCU Flare, Emission Point 4-84, are changing mostly due to the updated U.S. EPA emission factor from 0.04 to 0.37 lb/MM BTU (AP-42, Fifth Edition, Chapter 13.5, Industrial Flares, September 1991). Similarly NOx emissions are changing due to the updated U.S. EPA emissions factor from 0.55 (AP-42, Chapter 1.4) to 0.068 lb/MM BTU (AP-42, Fifth Edition, Chapter 13.5, Industrial Flares, September 1991).

The West Ops Ground Flare, Emission Point 9-84, emission changed because of the Authorization to Construct/Operate dated April 4, 2003 and the updated emission factors referenced above.

The HCU Flare is permitted under the Part 70 Permit No. 2913-V0 and West Ops Ground Flare Part 70 Permit No. 2912-V0 both currently on public notice.

Other miscellaneous routine maintenance and repair work will be performed on equipment during the HCU and Hydrogen Plants turnaround. There will not be any change in permitted emissions from other affected units; Catalytic Reformer (CR-1 and CR-2) Units, Sats Gas Plant, Residue Catalytic Cracking (RCC) Unit, Distillation Unit (DU-5), Diesel Hydrotreater (DHT) Unit, Sulfur Plant (S-2 and S-3), and Logistics I and II. Hydrocracking Unit (HCU) and the Hydrogen Plant will experience improved uptime reliability.

Pollutant	Emissions Reported *	Currently Permitted Emissions
PM_{10}	160.00	215.08
SO_2	770.00	903.47
NO_X	3250.00	4127.74
CO	1160.00	1936.14
VOC	1350.00	3823.33

* The emissions are based on the maximum reported in the period of 2003 thru 2006. Also, note that the total permitted emissions will not change.

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Estimated emissions increase from the existing flares in tons per year is as follows:

Pollutant	Permitted Emissions	Post Project Emissions *	Change
PM_{10}	4.59	3.55	- 1.04
SO_2	0.75	1.52	+ 0.77
NO_X	24.39	32.43	+ 8.04
CO	132.71	176.44	+ 43.73
VOC	162.81	72.25	- 90.56

* Based on updated emission factors as referenced above. Note, there will not be any change in the emissions.

Permitted emissions from the HCU in tons per year are as follows:

Pollutant	Before	After	Change*
PM_{10}	7.30	7.24	- 0.06
SO_2	26.50	26.53	+ 0.03
NO_X	99.60	99.64	+ 0.04
CO	83.50	83.47	- 0.03
VOC	110.40	110.40	-
H_2S	0.40	0.39	- 0.01

* Change due to rounding only.

The facility is classified under "Petroleum Refineries" for which there are established standards in New Source Performance Standards (NSPS), Subpart J – Petroleum Refineries. Motiva Enterprises LLC is also subject to NSPS, 40 CFR 60, Subpart GGG – Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries; Subpart QQQ – Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater System; 40 CFR 61, Subpart FF – National Emissions Standard for Benzene Waste Operations; and 40 CFR 63, Subpart CC – National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries. The refinery as whole is a major source of toxic air pollutants and must comply with all the applicable requirements of LAC 33:III.Chapter 51 – Comprehensive Toxics Air Pollutant Emission Control Program and the Louisiana Refinery MACT Determination July 26, 1994 with some minor changes as approved by LDEQ.

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Initial/Modified Title V Part 70 permits that were issued by the department include:

Permit #	Units or Sources	Date Issued
2501-V1	Coker, Distillation, and Kerosene Units	9/26/2006
2502-V1	Catalytic Reformers I and 2, Naphtha Hydrotreater, and Diesel Hydrotreater Units	1/10/2005
2510-V1	Logistics, Flares and Shared Sources	7/21/2000
2600-V0	Alkylation Unit	4/29/1999
2601-V0	Methyl Tertiary Butyl Ether Unit	4/29/1999
2602-V1	Residue Catalytic Cracking Unit	1/13/2004
2628-V1	Hydrogen Plant	1/10/2005
2629-V1	Hydrocracker Unit	4/14/2005
2794-V1	Low Sulfur Gasoline Hydrotreater Unit	3/11/2005
2902-V0	Sulfur Plant No. 2	12/20/2004
2903-V0	Sulfur Plant No. 3	12/20/2004
2899-V0	Kerosene Treater Naphthenic Caustic Tank	7/29/2004
3012-V0	Feliciana Pipeline Project	11/16/2005
3052-V0	HCU Condensate Injection Pumps	1/25/2007
3054-V0	Tanks F-517 and XC-518	3/13/2007

Renewal/ Modification permits under review by the department include:

Permit #	Units or Sources	Date Issued
2794-V2	Low Sulfur Gasoline Hydrotreater Unit	Under Review
2629-V1	Hydrocracker Unit	Under Review
2628-V2	Hydrogen Plant	Under Review
2902-V0	Sulfur Plant No. 2	Under Review
2903-V0	Sulfur Plant No. 3	Under Review
2501-V1	Coker, Distillation, and Kerosene Units	Under Review

III. *PROPOSED PERMIT / PROJECT INFORMATION*

Proposed Permits

A permit application and Emission Inventory Questionnaire (EIQ) dated July 16, 2007 was submitted to modify the existing permit for the HCU. Additional information was requested and submitted on August 30, 2007, and as of November 15, 2007.

Project description

The facility proposes to modify the permit to include the HCU Turnaround Projects. These minor upgrade projects would improve the transfer efficiency, increase utilization, enhance safety measures, reduce downtime, reduce startup emissions, and increase operating time of equipment.

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IV. *REGULATORY ANALYSIS*

The applicability of the appropriate regulations is straightforward and is provided in the Facility Specific Requirements Section of the proposed permits. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms conditions and standards are provided in the Facility Specific Requirements Section of the proposed permits.

National Emission Standards for Hazardous Air Pollutants: NESHAP From Benzene Waste Operations (BWON)

Chemical manufacturing plants, coke by-product plant and petroleum refineries are potentially subject to the provisions of BWON. Oil water separators, individual drain systems, stream stripping units, and other equipment that meet the definition of a waste management unit are subject to BWON. A waste management unit is defined as a piece of equipment used in the handling, storage, treatment, or disposal of waste. A waste is any material resulting from industrial operations that is discarded or accumulated, stored, or treated prior to discarded, recycled, or discharged. BWON specifically lists the following waste streams to which this regulation do not apply: 1) Waste in the form of gases or vapors that is emitted from process fluids; 2) Waste that is contained in a segregated storm water sewer system; and 3) Any gaseous stream from a waste management unit, treatment process, or wastewater treatment system routed to a fuel gas system.

The facility generates a total annual benzene (TAB) quantity of 10 megagrams per year or greater. The facility elects to take the 6 megagrams per year option as per the requirements of 40 CFR 63.342(e) where the total uncontrolled benzene quantity for the wastes shall not be greater than 6 megagrams per year.

National Emission Standards for Hazardous Air Pollutants: NESHAP From Synthetic Organic Chemical Manufacturing Industry

A chemical manufacturing process unit (CMPU) that manufactured one or more SOCMI chemicals listed in Table 1 of 40 CFR 63, Subpart F and that uses as a reactant or manufactures as a product, or co-product, one or more of the organic hazardous air pollutants listed in Table 2 of 40 CFR 63, Subpart F is potentially subject to the SOCMI HON. Some of the Chemical Manufacturing Process Units (CMPUs), located elsewhere in the refinery, may generate maintenance wastewater and Group 2 process wastewater and route it to the WWTP. Therefore, the WWTP is subject to Subpart F Maintenance Wastewater requirements and Subpart G Group 2 Process Wastewater requirements.

National Emission Standards for Hazardous Air Pollutants: NESHAP From Petroleum Refineries

Petroleum refining process unit that contains or contacts one or more of the HAPs listed in Table 1 of Subpart CC is potentially subject to RMACT.

There are fugitive components within the units in organic HAP service. Therefore, the units are subject to the equipment leak provisions of this rule and Motiva demonstrates compliance by complying with the provisions of 40 CFR 63.648(c), the modified HON option.

A process wastewater stream in a refining process unit that contains one or more of the HAPs listed in Table 1 of Subpart CC are potentially subject to RMACT. Wastewater components within the process units are associated with petroleum refining process units. Therefore, the wastewater provisions of the RMACT are applicable. Group 2 streams are not subject to any control, monitoring, recordkeeping, or reporting requirements under RMACT. Group 1 wastewater streams must demonstrate compliance with RMACT by complying with NESHAP Part 61 Subpart FF, BWON.

The units contain tanks that receive maintenance wastewater and wastewater streams that are subject to the wastewater provisions of RMACT. When determining whether a tank must comply with the storage vessel provisions or the wastewater provisions of the RMACT, the function of the tank (whether the tank stores a waste or a product for use or reuse) is used as the basis of the determination. As defined in RMACT Subpart CC, a wastewater tank is not a storage vessel. Notably, the units contain Group 2 wastewater tanks. Group 2 wastewater tanks are not subject to any control, monitoring, recordkeeping, or reporting requirements under RMACT.

The No. 1 Crude Unit contains tanks that receive maintenance wastewater and wastewater streams that are subject to the wastewater provisions of RMACT. When determining whether a tank must comply with the storage vessel provisions or the wastewater provisions of the RMACT, the function of the tank (whether the tank stores a waste or a product for use or reuse) is used as the basis of the determination. As defined in RMACT Subpart CC, a wastewater tank is not a storage vessel. Notably, the No. 1 Coker Unit contains Group 2 wastewater tanks. Group 2 wastewater tanks are not subject to any control, monitoring, recordkeeping, or reporting requirements under RMACT.

National Emission Standards for Hazardous Air Pollutants: NESHAP From Synthetic Organic Chemical Manufacturing Industry

The petroleum refining process unit that contains or contacts one or more of the HAPs listed in Table 1 of Subpart CC is potentially subject to RMACT. Leaks from equipment in organic HAP service that are located in a petroleum refining process unit are subject to RMACT. Equipment in organic HAP service in the WWTP Area is subject to the RMACT. CRLLC demonstrates compliance with this rule by complying with the provisions of 40 CFR 63.648. A process wastewater stream in a petroleum refining process unit that contains one or more of the HAPs listed in Table 1 of Subpart CC are potentially subject to RMACT. The WWTP receives process wastewater streams and, therefore, the wastewater provisions of the RMACT are applicable to the WWTP Area.

Notably, the benzene concentration of the wastewater streams generated in the WWTP Areas is less than 10 ppmw. Therefore, the wastewater stream can be classified as a Group 2 stream. There are no controls, monitoring, recordkeeping, or reporting requirements for Group 2 wastewater streams. However, the Vacuum Trucks within the WWTP may load and transport process wastewater streams from refinery units that can be classified as Group 1 streams. Per 40 CFR 63.647(a), Group 1 wastewater streams must demonstrate compliance with RMACT by complying with NESHAP Part 61 Subpart FF, BWON.

The WWTP area contains tanks that receive maintenance wastewater and wastewater streams that are subject to the wastewater provisions of RMACT. When determining whether a tank must comply with the storage vessel provisions or the wastewater provisions of the RMACT, the function of the tank (whether the tank stores a waste or a product for use or reuse) is used as the basis of the determination. As defined in RMACT Subpart CC, a wastewater tank is not a storage vessel. Notable, the WWTP area contains Group 2 wastewater tanks. Group 2 wastewater tanks are not subject to any requirements under RMACT.

The equipment leak provisions of Subpart CC apply to all equipment that operates in organic HAP service. Equipment includes all pumps, compressors, pressure relief devices, sampling connections, open-ended valves or lines, valves, flanges and other connectors, product accumulator vessels, and control devices, or systems required by Subpart CC. However, there are no fugitive components within the WWTP Area in organic HAP service. Therefore, the WWTP Area is not subject to the equipment leak provisions of this rule.

Prevention of Significant Deterioration Applicability

The Norco Refinery is a major stationary source under the Prevention of Significant Deterioration (PSD) program, LAC 33:III.509. Increases of PM/PM_{10}, SO_2, NO_X, CO, and VOC (without respect to deceases) associated with the proposed HCU Turnaround Project exceeded their respective significance levels. As such, a netting analysis was required.

Construction aspects of the HCU Turnaround Project are expected to begin by February 1, 2008. Therefore, the beginning of the contemporaneous period will be five years prior to February 1, 2008. Operations following the HCU Turnaround Project are expected to commence in March 2008. Therefore, all creditable emissions changes from February 1, 2003, through March 2008 will be accounted for in the contemporaneous period.

The proposed modifications will result in a significant net emissions increase of PM/PM_{10}, SO_2, NO_X, CO, and VOC. However, the only affected sources that are being physically modified are the fugitive emissions (due the addition of new piping components). The project will not cause any emissions units to experience a change in the method of operation.

Therefore, best available control technology (BACT) is required only for VOC emissions from these components. The selection of BACT was based on a "top down" approach and included consideration of control of toxic materials. Motiva shall comply with all applicable provisions of the following leak detection and repair (LDAR) programs as BACT:

- Louisiana MACT Determination for Refinery Equipment Leaks (Fugitive Emission Sources) dated July 26, 1994.
- 40 CFR 60 Subpart GGG – Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006
- 40 CFR 63 Subpart CC – National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries
- LAC 33:III.2121 – Fugitive Emission Control

PSD regulations also require an analysis of existing air quality for those pollutants to be emitted in significant amounts from a major modification. PM_{10}, SO_2, NO_X, CO, and VOC are pollutants of concern in this instance. Note that the HCU Turnaround Project is not associated with any increase in the short-term emissions rate of any pollutant, so analyses were not conducted for averaging periods other than annual. As CO only has short-term averaging periods (1-hour and 8-hour), no analyses were conducted for this pollutant.

AERMOD and CALMET/CALPUFF modeling of the PM_{10}, SO_2, and NO_X increases associated with the HCU Turnaround Project indicates that the maximum concentrations of these pollutants will exceed their respective PSD ambient significance levels; therefore, refined NAAQS modeling and a determination of increment consumption were required. However, because the significant monitoring concentration (only applicable for NO_X in this instance) was not exceeded, pre-construction monitoring was not required.

Pol.	Avg. Period	Screen	PSD Ambient Significance Level	Preconstruction Level	NAAQS
PM_{10}	Annual	8.3 $\mu g/m^3$	1 $\mu g/m^3$	-	50 $\mu g/m^3$
SO_2	Annual	1.3 $\mu g/m^3$	1 $\mu g/m^3$	-	80 $\mu g/m^3$
NO_2	Annual	1.3 $\mu g/m^3$	1 $\mu g/m^3$	14 $\mu g/m^3$	100 $\mu g/m^3$

The net emissions increase of VOC associated with the HCU Turnaround Project will exceed 100 tons per year; therefore, an ambient air quality analysis and preconstruction monitoring are required for ozone. Based on the refinery's proximity to existing ozone monitors (Hahnville, Kenner, New Orleans, St. James Parish, St. John Parish), LDEQ allowed use of data from these monitors to determine the representative background concentration. Motiva performed the screening analysis utilizing the procedure set forth by Scheffe's method. The increase in the ambient ozone concentration using this methodology was estimated to be 0.019 parts per million (ppm).

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Refined Modeling

Refined modeling demonstrates compliance with the PM_{10}, SO_2, and NO_X NAAQS.

PM_{10}: The maximum modeled concentration at some receptors resulted in exceedances of the NAAQS. Investigation revealed that these exceedances occurred at receptors located on adjacent property and resulted from road dust and coke handling emissions (not associated with Motiva). The maximum concentration due to the HCU Turnaround Project was 30 $\mu g/m^3$, which is less than the NAAQS of 50 $\mu g/m^3$.

NO_2: The maximum modeled concentration at some receptors resulted in exceedances of the NAAQS. Investigation revealed that these exceedances occurred at receptors located on adjacent property and resulted from emissions from diesel engines not owned or operated by Motiva. The maximum concentration due to the HCU Turnaround Project was 99 $\mu g/m^3$, which is less than the NAAQS of 100 $\mu g/m^3$.

Pollutant	Averaging Period	Modeled + Background Concentration	NAAQS
PM_{10}	Annual	30 $\mu g/m^3$	50 $\mu g/m^3$
SO_2	Annual	42 $\mu g/m^3$	80 $\mu g/m^3$
NO_2	Annual	99 $\mu g/m^3$	100 $\mu g/m^3$

PSD Increment Analyses

Modeling also demonstrates compliance with the allowable Class I and Class II PSD increments for PM_{10}, SO_2, and NO_X.

Class I Summary

Pollutant	Averaging Period	Modeled PSD Increment (Class I)	Proposed Significant Impact Level (SIL)	Allowable PSD Increment (Class I)
PM_{10}	Annual	0.0014 $\mu g/m^3$	0.20 $\mu g/m^3$	4 $\mu g/m^3$
	24-hour	0.0333 $\mu g/m^3$	0.30 $\mu g/m^3$	8 $\mu g/m^3$
SO_2	Annual	0.0023 $\mu g/m^3$	0.10 $\mu g/m^3$	2 $\mu g/m^3$
	24-hour	0.0565 $\mu g/m^3$	0.20 $\mu g/m^3$	5 $\mu g/m^3$
	3-hour	0.2033 $\mu g/m^3$	1.0 $\mu g/m^3$	25 $\mu g/m^3$
NO_2	Annual	0.0017 $\mu g/m^3$	0.10 $\mu g/m^3$	2.5 $\mu g/m^3$

Class II Summary

PM_{10}: The maximum modeled concentration at some receptors resulted in exceedances of the allowable Class II increment. Investigation revealed that these exceedances occurred at receptors located on adjacent property and resulted from a coke pile and cooler scrubber not owned or operated by Motiva. The increment consumed by the HCU

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Turnaround Project was 16 $\mu g/m^3$, which is less than the allowable of 17 $\mu g/m^3$.

Pollutant	Averaging Period	Modeled PSD Increment (Class II)	Allowable PSD Increment (Class II)
PM_{10}	Annual	16 $\mu g/m^3$	17 $\mu g/m^3$
SO_2	Annual	18 $\mu g/m^3$	20 $\mu g/m^3$
NO_2	Annual	22 $\mu g/m^3$	25 $\mu g/m^3$

Air Modeling Analysis

SO_2 Impacts: The maximum estimated annual average SO_2 impact at the Class I area, Breton Wilderness Area, receptor was 0.0023 ug/m^3 during 2001 and 2003. This is 0.12% of the allowable increment and 2.3% of the single-source SIL threshold for annual SO_2. The maximum estimated 24-hour SO_2 impact at Breton Wilderness Area is 0.0565 ug/m^3 in 2003. This is 1.13% of the allowable Class I area increment and 28.26% of the 24-hour SO_2 single-source SIL. The maximum 3-hour impact at the Breton Wilderness Area is 0.2033 ug/m^3 (in 2002). This is 0.8% of the allowable Class I increment and 20.33% of the single-source 3-hour SO_2 SIL threshold.

PM_{10} Impacts: The maximum estimated annual average PM_{10} concentration at the Breton Wilderness was 0.0014 ug/m^3 in 2001. This is 0.04% of the allowable Class I area increment and 0.7% of the single-source SIL threshold for annual average for PM_{10}. The maximum estimated 24-hour PM_{10} impact at the Breton Wilderness Area is 0.033 ug/m^3 in 2001. This is 0.42% of the allowable Class I area increment and 11.1% of the single-source SIL threshold.

NO_2 Impacts: the maximum estimated annual average NO_2 concentration at the Breton Wilderness was 0.00017 ug/m3 in 2001. This is 0.07% of the allowable Class area and 1.7% of the single-source SIL threshold.

Based on the above referenced results the proposed HCU Turnaround Project would not cause any exceedances of allowable Class I area PSD increments or single-source SIL threshold for air quality at the Breton Wilderness or the Caney Creek Wilderness.

Comprehensive Toxic Air Pollutant Control Program-Chapter 51

Toxic air pollutant emissions from fugitives must be controlled to a degree that constitutes MACT. The units comply with all applicable provisions of the Federal HAP requirements and the Louisiana Air Toxics Program.

Maximum Achievable Control Technology (MACT) requirements

The Louisiana Air Toxics Program (LA MACT) requires a major source emitting any Class I or II pollutant at a rate that exceeds the minimum emission rate for that pollutant to demonstrate compliance with the Maximum Achievable Control Technology (MACT)

standards. Additionally, the Louisiana Air Toxics Program requires a major source emitting any Class I, II, or III toxic air pollutant greater than the minimum emission rate for that pollutant to determine its status of compliance with the applicable ambient air standard (AAS) defined for the pollutant.

The requirements of the LA MACT apply to the fugitive components and shall compliance by complying with the LDAR approved under Federal and State requirements.

General Condition XVII Activities

Motiva is requesting General Condition XVII Activities under these permits. See SECTION VIII of the proposed permits.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. Motiva is not requesting any Insignificant Activities under these proposed permits.

V. *PERMIT SHIELDS*

A permit shield was not requested.

VI. *PERIODIC MONITORING*

The Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the SPECIFIC REQUIREMENTS section of the proposed permits.

VII. *APPLICABILITY AND EXEMPTIONS OF SELECTED SUBJECT ITEMS*

See Proposed Permits.

VIII. *STREAMLINED REQUIREMENTS*

The facility shall comply with NSPS, Subpart GGG in lieu of NESHAP, Subpart F and H, Subpart CC and LAC 33:III.2121 for fugitive emission sources except connectors. The facility shall comply with Louisiana Refinery MACT Determination July 26, 1994 for all connectors with a leak definition of 500 ppm. See SPECIFIC REQUIREMENTS section of the proposed permit in Logistics I. The fugitive emission sources for Logistics I and II (combined) are permitted under Logistics I proposed permit.

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IX. *GLOSSARY*

Carbon Monoxide (CO) – A colorless, odorless gas which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10}- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

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RMACT – Refinery Maximum Achievable Control Technology

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.